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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/873,242	06/05/2001	Haruo Kamimaki	ASA-1008	5964

7590

12/18/2003

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EXAMINER
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DANG, KHANH NMN

ART UNIT	PAPER NUMBER
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2111

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/873,242

Applicant(s)

KAMIMAKI ET AL.

Examiner

Khanh Dang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☒ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other:

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-15 are directed to an apparatus. However, the essential structural cooperative relationships between structural elements in the claims have been omitted, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

Also, in claim 4, lines 8-9, "said address counting means" lacks proper antecedent basis. In claim 7, it is unclear what may be the difference in structure and function between the "temporary address register" specified in claim 4 and the "source address register" and "destination address register" specified in claim 7. In claims 8 and 9, the phrase, "according to any of claim 4" appears to be an error. In claim 10, the phrase, "according to any of claim 1" appears to be an error. In claim 8, it is unclear whether the "transfer number designation register" is a single part of a "data transfer controller" or is included in the "transfer number counting unit."

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-8, 10-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitsushira et al.

At the outset, it is first noted that similar claims will be grouped together to avoid repetition in explanation. It is also noted that it has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

As broadly drafted, these claims do not define any structure that differs from Mitsuhira et al. With regard to claim 1, Mitsuhira et al. discloses a data transfer controller comprising: an initial value register (address register 208/209, for example), a transfer start address (initial address) of a transfer source or transfer destination being initially set to the initial value register (208/209, for example) from an external; and a control unit (DMA Controller 205 including DMA Execution Control Unit 200) which requests an interrupt to the external each time data transfer responding to a transfer request from the external reaches a predetermined data amount (upon completion of a predetermined DMA transfer) when data transfer based upon the transfer start address (initial address), and initializes an address of the transfer source or transfer destination

to the transfer start address in said initial value register each time the interrupt is issued a plurality of predetermined times (or in another word, in Mitsuhiro et al., each time DMA transfer is executed and an interrupt is issued thereafter, the value at the terminal counter 205 is decreased. When the counter 205 reaches 0 after a predetermined of times or counts or in another word, after a number of issued interrupts, the data transfer of all data in the DMA transfer area is completed. Upon completion of DMA transfer for the number specified for one DMA transfer area, the data transfer control device using DMA updates the initial address of the next DMA transfer and the number of transfers for the next DMA transfer area). With regard to claim 2, see above explanation regarding claim 1. It is also clear that it is clear that the device of Mitsuhiro et al. is a semiconductor device and the DMA controller 205 including Execution Control Unit 200 is an arithmetic and logic controller. With regard to claim 3, see explanation above regarding to claim 1. It is also clear that it is clear that the device of Mitsuhiro et al. is a semiconductor device and the DMA controller 205 including Execution Control Unit 200 is an arithmetic and logic controller. Mitsuhiro et al also discloses RAM 103 to store DMA transfer area before an interrupt is issued; and peripheral circuit 104. With regard to claim 4, Mitsuhiro et al. discloses a data transfer controller comprising: an initial value register (address register 208, for example) capable of being externally set with transfer control address information; an address counting unit (address update unit 207, for example) which renews the transfer control address information each time data is transferred from a transfer source to a transfer destination; a temporary address register (209, for example) to which the transfer control address information set to the initial

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value register is set, the set transfer control address information being sequentially renewed by the address counting unit; a transfer number counting unit (terminal counter 205) capable of repetitively performing an operation of counting the number of transfer times up to a first target number each time data is transferred from the transfer source to the transfer destination; a repetition number (area counter 701, for example) capable of repetitively performing an operation of counting the number of repetition times of the operation of the transfer number counting unit which counts the number of transfer times up to the first target number, up to a second target number; and a control unit (DMA controller 205 including Execution Control Unit 200) which starts a data transfer operation from the transfer source to the transfer destination in response to a data transfer request, outputting an interrupt signal each time the transfer number counting unit counts the first target number, and setting the transfer control address information to the temporary register from the initial value register each time the repetition number counting unit counts the second target number. With regard to claims 5 and 6, it is clear from Mitsuhiro et al. and the above explanation that the temporary address register 209 is capable of being either a destination address register or a source address register, since data transfer between peripheral 101 and RAM 103 is bi-directional. With regard to claim 7, as best the Examiner can ascertain from the language of the claim, the temporary address register 209, depending from the transfer direction, can be a source address register when data is transferred one way, or a "destination address register" when data is transferred the other way; and the DMA controller 205 including Execution Control Unit 200 may select either one to start a data

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transfer control. With regard to claim 8, it is clear that the transfer number counting unit (terminal counter 205) includes a counter (register) which can be externally set with a so-called "first target number." With regard to claim 10, the RAM 103 is used as a transfer source or transfer destination. With regard to claims 11 and 12, see explanation above regarding at least claims 1-4. With regard to claims 13 and 14, see explanation provided above. In addition, it is clear that the RAM 130 and the DMA Controller 105 is formed in a single unit 150. It is also clear that unit 150 is a semiconductor device. In any event, the method of forming a device is not germane to the issue of patentability of the device itself.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsuhiro et al.

Mitsuhiro et al., as discussed above, discloses the claimed invention including the use of a so-called "second target number." However, Mitsuhiro et al. does not specifically disclose that the "target number is three." It would have been obvious to one of ordinary skill in the art at the time the invention was made to select a specific target number for Mitsuhiro et al., since such a selection is merely a matter of design choice.

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In any event, it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2D 272, 205 USPQ 215 (CCPA 1980).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsuhiro et al.

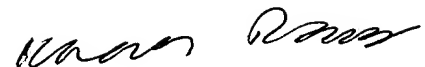
Mitsuhiro et al., as discussed above, discloses the claimed invention including the use of a peripheral (101) connected to I/O circuit (there must be an I/O circuit in Mitsuhiro et al. so that the peripheral 101 can be connected to). However, Mitsuhiro et al. does not specifically disclose that the peripheral (101) is a voice/sound signal input circuit. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a voice/sound signal input as a peripheral (101) in Mitsuhiro et al. for providing Mitsuhiro et al. with multimedia setting, since the Examiner takes Official Notice that the use of voice/sound signal input as a peripheral or I/O device in a digital multimedia setting is old and well-known in the art as evidenced from at least Wood et al. (cited below as supportive evidence); and only involves routine skill in the art.

US Patent Nos. 4,821,180 to Gerety et al., 5,754,884 to Swanson, 5,481,756 to Kanno, and 5,928,339 to Nishikawa are cited as relevant art.



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Any inquiry concerning this communication should be directed to Khanh Dang at telephone number 703-308-0211.

A handwritten signature in black ink, appearing to read 'Khanh Dang', written in a cursive style.

**Khanh Dang**  
**Primary Examiner**